

AMENDMENT UNDER 37 C.F.R. § 1.111  
U.S. Application No.: 09/993,718

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circumferential surface of said insulator to thereby form said protrusion into a crimped portion of said metallic shell,

wherein a distance between opposed sides of said tool engagement portion is not greater than 14 mm; and said crimped portion as projected orthogonally on a virtual plane in parallel with an axis of said insulator is curved such that an end-side part of said crimped portion approaches said insulator, such that an exterior outline of said crimped portion has an outwardly convex crimped curve portion at the end-side part, and such that a tangent to said exterior outline at a base point of said crimped curve portion and a line perpendicular to the axis projected on the virtual plane form an angle of  $50^{\circ}$ - $110^{\circ}$ ,

wherein said crimped portion as projected orthogonally on said virtual plane has a height in the range of from 1.0 to 3.0 mm as measured along the axis of said insulator,

wherein said metallic shell comprises a thin-walled convex portion located at an axially intermediate position thereof and is radially outwardly convex, a first flange-like portion provided circumferentially in a projecting condition, and a second flange-like portion provided circumferentially in a projecting condition, said first and second flange-like portions being located at axially opposite ends of said thin-walled convex portion; and

said crimped portion projects axially from an inner edge of an end face of said first flange-like portion in opposition to said thin-walled convex portion.

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a<sup>2</sup> 7. (Amended) The spark plug as claimed in claim 1, wherein an outer surface of said thin-walled convex portion is radially outwardly convex, and an inner surface of said thin-walled convex portion is radially inwardly convex.

**Please add the following new claims:**

a<sup>3</sup> 8. (New) A spark plug comprising a cylindrical metallic shell having a tool engagement portion for mounting said spark plug on an engine fixedly attached to an axially extending insulator inserted into said metallic shell, by crimping a protrusion formed at one opening portion of said metallic shell toward a crimp rest portion formed on an outer circumferential surface of said insulator to thereby form said protrusion into a crimped portion of said metallic shell, and

wherein a distance between opposed sides of said tool engagement portion is not greater than 14 mm; and said crimped portion as projected orthogonally on a virtual plane in parallel with an axis of said insulator is curved such that an end-side part of said crimped portion approaches said insulator, such that an exterior outline of said crimped portion has an outwardly convex crimped curve portion at the end-side part, and such that a tangent to said exterior outline at a base point of said crimped curve portion and a line perpendicular to the axis projected on the virtual plane form an angle of 50° to less than 90°.

9. (New) The spark plug as claimed in claim 8, wherein said crimped portion as projected orthogonally on said virtual plane has a height in the range of from 1.0 to 3.0 mm as measured along the axis of said insulator.

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10. (New) The spark plug as claimed in claim 8, wherein a sealing filler layer is provided in a gap between an inner surface of said metallic shell and an outer surface of said insulator in a filling condition while being compressed between said crimped portion and said crimp rest portion, to thereby seal the gap.

11. (New) The spark plug as claimed in claim 10, wherein seal rings are provided at axially opposite sides of said sealing filler layer so as to seal against said insulator and said metallic shell.

12. (New) The spark plug as claimed in claim 8, wherein a ring-like seal member for sealing a gap between an inner surface of said metallic shell and an outer surface of said insulator is disposed between said crimped portion and said crimp rest in such a manner as to be axially compressed between said crimped portion and said crimp rest.

13. (New) The spark plug as claimed in claim 8, wherein said metallic shell comprises a thin-walled convex portion located at an axially intermediate position thereof and is radially outwardly convex, a first flange-like portion provided circumferentially in a projecting condition, and a second flange-like portion provided circumferentially in a projecting condition, said first and second flange-like portions being located at axially opposite ends of said thin-walled convex portion; and

said crimped portion projects axially from an inner edge of an end face of said first flange-like portion in opposition to said thin-walled convex portion.

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14. (New) The spark plug as claimed in claim 13, wherein an outer surface of said thin-walled convex portion is radially outwardly convex, and an inner surface of said thin-walled convex portion is radially inwardly convex.

15. (New) The spark plug as claimed in claim 8, wherein a tangent to said exterior outline at a base point of said crimped curved portion and a line perpendicular to the axis projected on the virtual plane form an angle of  $50^{\circ}$  to  $80^{\circ}$ .

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